

Developmental Toxicology Initiative

Obesity, Puberty Onset, and Adolescent Diseases/Dysfunctions

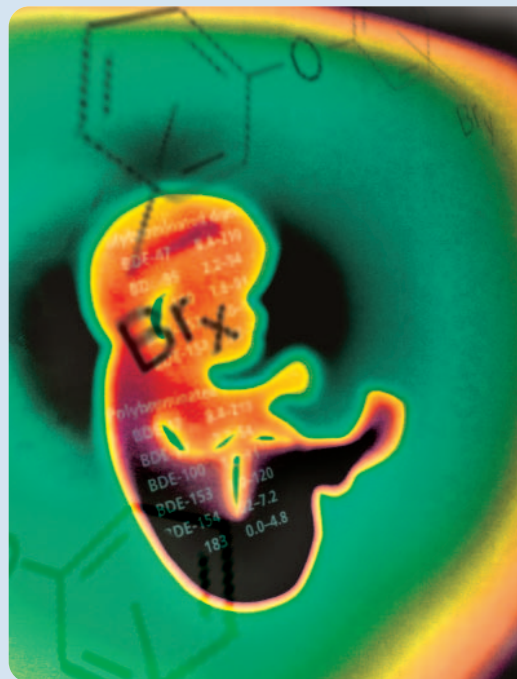
The third and final year of the Fetal Basis of Adult Disease: Role of the Environment initiative will emphasize the role of *in utero* and neonatal exposures to environmental chemicals in the susceptibility to obesity and adolescent diseases, including abnormal onset of puberty. These new areas will expand the areas of emphasis noted in past solicitations. The goal of these exploratory R21 grants is to link developmental exposures to environmental chemicals with functional changes in tissues or organs during development that persist and result in increased susceptibility to disease/dysfunction later in life.

Twenty exploratory R21 grants were funded in the first two years of this initiative. Examples of topics funded include *in utero* dioxin programming for mammary cancer, developmental pesticide exposure and Parkinson disease, fetal dioxin exposure and the pathology of endometriosis, fetal programming of coronary artery disease, fetal dioxin exposure and adult heart disease, developmental modulation of mouse uterine tumorigenesis, and prenatal diesel fuel exposure and adult-onset asthma.

The new solicitation, released in April 2004, has a receipt date of 12 August 2004. In addition to the new topics of obesity and adolescent diseases/dysfunctions, the initiative also emphasizes diseases/dysfunctions of the reproductive/endocrine system (fertility; endometriosis; polycystic ovary syndrome; premature menopause; prostate, ovarian, and breast cancer), the cardiopulmonary system (heart disease, atherosclerosis, hypertension, chronic obstructive pulmonary disease, adult-onset asthma), the brain/central nervous system (neurodegenerative diseases including Parkinson disease and Alzheimer disease), and the immune and autoimmune systems (systemic and tissue-specific autoimmune diseases of adults, altered immune system dysfunctions).

Applicants responding to this initiative need not have preliminary data but must show plausibility and a scientifically solid approach to studying an environmental agent or chemical stressor to which there is human exposure and the potential for *in utero* exposure. Proposed studies must focus on *in utero* exposure and relate this exposure to increased susceptibility to disease/dysfunction later in life. The *in utero* exposure must be shown to result in irreversible prenatal or neonatal changes that can be mechanistically linked to the disease/dysfunction.

The full details of this program announcement can be found on the NIEHS website at <http://www.niehs.nih.gov/dert/pa.htm>.



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